

What is claimed is:

1. A data sending protocol using a short message service, the data transmission protocol comprising the steps of:

(a) inserting a data connection service identifier into a user data field;

(b) segmenting input message data into a plurality of short message data fields and

5 inserting a segmented message data field, a field indicating the number of segmented short messages and a field indicating a current short message number, into the user data field;

(c) generating a short message field using the user data field; and

(d) transmitting the short message field.

2. The data sending protocol of claim 1, wherein the step (a) uses a code for the data connection service identifier which is not used in an ASCII code table.

3. The data sending protocol of claim 1, wherein the step (a) uses a code for the data connection service identifier which is not used in a KS5601 standard.

4. The data sending protocol of claim 2 or 3, wherein the code is 98H or 99H.

5. The data sending protocol of claim 1, further comprising a step of (e) inserting a reference number field, which indicates a number for referring to a type of data connection service employed, into a position next to the data connection service identifier in the user data field.

6. The data sending protocol of claim 1, further comprising a step of (f) translating a delivery message and extracting an identifier requesting retransmission of data.

7. The data sending protocol of claim 6, wherein the step (f) comprises a step of (f-1) extracting a field indicating a total number of short messages and a field indicating a retransmission request short message number.

8. The data sending protocol of claim 7, wherein the step (f) further comprises the steps of:

(f-2) inserting, among the segmented short messages, a short message data field corresponding to the retransmission request short message number, into a user data field; and

5 (f-3) generating a short message field using the user data field and retransmitting the short message field.

9. A data receiving protocol using short message service, the data receiving protocol comprising the steps of:

(a) checking a user data field of a delivery short message to extract a data connection service identifier;

5 when the data connection service identifier satisfies a predetermined condition,

(b-1) translating data in a short message area among the user data field of the delivery message; and

(b-2) storing and connecting said translated data; and

when the data connection service identifier does not satisfy said predetermined

10 condition,

(c) performing an ordinary short message process.

10. The data receiving protocol of claim 9, wherein the step (b-1) comprises a step of (b-1-1) extracting a field indicating the total number of short messages and a field indicating a current short message number, and the step (b-2) comprises a step of (b-2-2) outputting connected data to a higher processing layer after storing and connecting as many data fields as the total number of short messages.

11. The data receiving protocol of claim 9, further comprising :
when extraction of data in the short message area in the step (b-1) fails,
(b-1-2) inserting a short message number of a field, in which extraction of the data fails, into a separate user data field as a retransmission request short message number;
(b-1-3) generating a short message field using the separate user data field; and
(b-1-4) transmitting the short message field.

12. The data receiving protocol of claim 11, wherein the step (b-1-2) expresses short message numbers of fields whose data extraction fails, as retransmission request short message numbers, and inserts the retransmission request short message numbers into the separate user data field one at a time.

13. The data receiving protocol of claim 10, wherein the step (a) extracts a code as the data connection service identifier which is not used in an ASCII code table.

14. The data receiving protocol of claim 10, wherein the step (a) extracts a code as the data connection service identifier which is not used in a KS5601 standard.

15. The data receiving protocol of claim 13 or 14, wherein the code is 98H or 99H.

16. A data sending apparatus using a short message service, the apparatus comprising:

data connection service identifier inserting means for inserting a data connection service identifier into a user data field;

5 short message processing means for segmenting input message data into a plurality of short message data fields and inserting a segmented message data field, a field indicating the number of segmented short messages and a field indicating a current short message number, into the user data field;

short message field generating means for generating a short message field using the user data field; and

transmitting means for transmitting the short message field.

17. The data sending apparatus of claim 16, wherein the data connection service identifier inserting means uses a code for the data connection service identifier which is not used in an ASCII code table.

18. The data sending apparatus of claim 16, wherein the data connection service identifier inserting means uses a code for the data connection service identifier which is not used in a KS5601 standard.

19. The data sending apparatus of claim 17 or 18, wherein the code is 98H or 99H.

20. The data sending apparatus of claim 16, further comprising reference number field inserting means for inserting a reference number field, which indicates a number for referring to a type of data connection service employed, into a position next to the data connection service identifier in the user data field.

21. The data sending apparatus of claim 16, further comprising short message field translating means for translating a delivery message and extracting an identifier requesting retransmission of data.

22. The data sending apparatus of claim 21, wherein the short message field translating means comprises means for extracting a field indicating a total number of short messages and a field indicating a retransmission request short message number.

23. The data sending apparatus of claim 21, wherein the short message processing means receives a field indicating a total of segmented short messages and a field indicating a retransmission request short message number from the short message field translating means, and inserts a data field corresponding to the retransmission request short message number into a separate user data field; and the short message field generating means generates a retransmission short message field using the separate user data field.

24. A data receiving apparatus using short message service, the apparatus comprising:

service identifying means for checking a user data field of a delivery short message to extract a data connection service identifier, outputting a control signal having a first logic

5 level when the data connection service identifier satisfies a predetermined condition, and
outputting said control signal having a second logic level when the data connection service
identifier does not satisfy said predetermined condition;

short message field translating means for translating data in a short message area
among the user data field of the delivery message, in response to the control signal having the
10 first logic level;

short message storage/connection means for storing and connecting said translated
data; and

ordinary short message processing means for performing an ordinary short message
process in response to the control signal having the second logic level.

25. The data receiving apparatus of claim 24, wherein the short message field
translating means comprises means for extracting a field indicating a total number of short
messages and a field indicating a current short message number, and the short message
storage/connection means comprises means for outputting connected data to a higher
5 processing layer after storing and connecting data fields as indicated by the total number of
short messages.

26. The data receiving apparatus of claim 24, further comprising:

retransmission request short message number inserting means for outputting a field
indicating a short message number of a field, in which extraction of the data fails, and
inserting the field indicating the short message number of the field in which extraction of the
5 data fails, into a separate user data field as a retransmission request short message number, if
extraction of the data in the short message area fails;

user data field generating means for generating a short message field using the separate user data field; and

transmitting means for transmitting the short message field.

27. The data receiving apparatus of claim 24, wherein the service identifying means extracts a code as the data connection service identifier which is not used in an ASCII code table.

28. The data receiving apparatus of claim 24, wherein the service identifying means extracts a code as the data connection service identifier which is not used in a KS5601 standard.

29. The data receiving apparatus of claim 27 or 28, wherein the code is 98H or 99H.

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